

APRIL/MAY 2024

**23UMB11 — FUNDAMENTALS OF
MICROBIOLOGY AND MICROBIAL
DIVERSITY**

Time : Three hours

Maximum : 75 marks



SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What is penicillin?
2. Define the term Archaeobacteria.
3. Compare flagella and pili.
4. Discuss about *Saccharomyces cerevisiae*.
5. List some anaerobic culture techniques.
6. What are the stages of mitosis?
7. Justify the advantages of phase contrast microscope.
8. Construct the procedure for acid fast staining.
9. List out the limitations of autoclaving.
10. Distinguish between antiseptic and disinfectant.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) How Louis Pasteur disprove the spontaneous generation theory?

Or

- (b) List out Robert Koch.

12. (a) Illustrate the structure of bacteria and its components.

Or

- (b) Analyze about the infectious proteins and viroids.

13. (a) Explain the bacterial culture media.

Or

- (b) Demonstrate about the phases of cell division.

14. (a) Distinguish between TEM and SEM.

Or

- (b) Discuss the types of staining.

15. (a) Examine about membrane filtration technique.

Or

- (b) Summarize the antimicrobial agents.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the five kingdom classification

17. Explain the differences between Prokaryotes and Eukaryotes.

18. Determine the methods of pure culture techniques.

19. Discuss the working principles of the dark field microscope.

20. Explain the mechanism of ionization and UV radiation in sterilization.

